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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/765,046 11/15/96 TABATA

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023552
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MINNEAPOLIS MN 55402-0903

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EXAMINER

VANDY, T

ART UNIT

PAPER NUMBER

1754

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

08-765,046

Applicant(s)

TABATA ET AL.

Examiner

VAN OY

Group Art Unit

1754

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on MAILED 03 JAN. 2001
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 2-5, 7, 8, 10, 12 AND 15-26 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☒ Claim(s) 7, 8 AND 22 is/are allowed.
- ☒ Claim(s) 2-5, 10, 12, 15-21 AND 23-26 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

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DETAILED ACTION

Continued Prosecution Application

The Request mailed on 03 Jan. 2001, which has been filed as Paper No. 32, for a Continued Prosecution Application (CPA) under 37 C.F.R. 1.53(d) based on parent Application No. 08-765,046 is acceptable and a CPA has been established. An action on the CPA follows.

Double Patenting

Reed The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 C.F.R. 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 C.F.R. 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 C.F.R. 3.73(b).

Claims 10, 12 and 16-21 are again rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of U.S. Patent No. 5,869,013. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of 08-765,046 and U. S. Pat. No. 5,869,013 disclose obvious variations of the same method for removing nitrogen oxides out of exhaust gases by contacting

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the nitrogen oxide contaminated exhaust gas and hydrocarbon reducing agents with a beta aluminosilicate impregnated with cobalt having overlapping silica to alumina ratios (compare the silica to alumina ratio of 5 to 250 reported in claim 1 in U. S. Pat. 5,869,013 to the silica to alumina ratio of 20 to 800 set forth in claim 18 in 08-765,046) and overlapping cobalt to aluminum ratios (compare the cobalt to aluminum ratio of lower than 0.5 reported in claim 1 in U. S. Pat. No. 5,869,013 to the cobalt to aluminum ratio of 0.2 to 0.6 reported in claim 18 in 08-765,046).

The difference between the claims of 08-765,046 and U. S. Pat. No. 5,869,013 is that claim 1 in U. S. Pat. No. 5,869,013 discloses the pressure and gas hourly space velocity of the gas being treated, however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because it is expected to be well within the skill level of the person having ordinary skill in this art to determine what the optimum process parameters are (namely, the gas pressure, gas hourly space velocity, etc. . . reported in claim 1 in U. S. Pat. No. 5,869,013) within the general conditions of the prior art, consistent with the decisions reached in *In re Aller* et al. 105 U.S.P.Q. 233; *In re Reni* 164 U.S.P.Q. 245 and *In re Boesch* 205 U.S.P.Q. 215 and 219.

The Applicants comment that the rejection of claims 10-12 and 16-21 for obviousness-type double patenting over U. S. Pat. No. 5,869,013 is rendered moot by the Terminal Disclaimer.

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The Terminal Disclaimer submitted at the end of the Applicants' amendment dated 17 Nov. 1999 is not acceptable because it has not been submitted as a separate, distinct document, as required in 37 C.F.R. 1.4(c).

Claims 2-5, 10, 12 and 15-21 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 5,985,225. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of 08-765,046 and U. S. Pat. 5,985,225 disclose obvious variations of the same catalyst and the same method of using the catalyst to remove nitrogen oxides out of exhaust gas.

The difference between the Applicants' claims and U. S. Pat. No. 5,985,225 is that the claims of U. S. Pat. 5,985,225 disclose that the catalyst composition exhibits a Raman spectrum of the cobalt loaded zeolite that has a ratio of intensity of the 689 cm^{-1} band to the zeolite framework bands of between 300 and 600 cm^{-1} that is less than 0.07 .

Claim 5 in U. S. Pat. 5,985,225 sets forth that the zeolite is a BEA (i. e. beta) zeolite. Claim 4 in 08-765,046 sets forth that the aluminosilicate is of the BEA structure.

Therefore, this difference (i. e. the recitation that the catalyst composition exhibits a Raman spectrum of the cobalt loaded zeolite that has a ratio of intensity of the 689 cm^{-1} band to the zeolite framework bands of between 300 and 600 cm^{-1} that is less than 0.07) would have been obvious to one of ordinary skill in the art at the time the invention was made because a

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comparison of claim 4 in 08-765,046 and claim 5 in U. S. Pat. 5,985,225 makes it obvious that the same catalyst is being claimed. The same catalyst would inherently exhibit the same Raman spectrum characteristics.

Claim Rejections - 35 U.S.C. § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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a) Claims 15, 16 and 18 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The limitation set forth in claims 15, 16 and 18 setting forth that part of the metal is substituted by boron is not supported by the specification as originally filed and is, therefore, new matter. Original claim 11 sets forth that part of the aluminum is substituted by boron, but claims 15, 16 and 18 set forth that part of the metal is substituted by boron.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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drop a) In claim 18, it is not clear what the Applicants intend by the limitation "in which 50% more of hydrocarbons calculated in terms of methane are methane". It may have been the Applicants' intention to recite: "in which 50% or more of the hydrocarbons in the exhaust gas are methane", consistent with pg. 15 lines 13-16 in the Applicants' specification.

Claim Rejections - 35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

DROP Claims 3, 4, 15, 16 and 17 are again rejected under 35 U.S.C. 102(b) as being anticipated by Japan patent document no. 5-220,403 A.

The English abstract of the Japan patent document no. 5-220,403 A discloses both a catalyst and method for removing nitrogen oxides out of an oxygen-rich exhaust gas by contacting the nitrogen oxides contaminated exhaust gas with a beta zeolite that may be loaded with cobalt, as set forth in applicants' claims 15 and 16 as well as applicants' claims 3 and 4. From the disclosure set forth on pg. 3, col. 4 paragraph no. [0027] in the text of Japan patent document no. 5-220,403 A it appears that C_3H_6 is the hydrocarbon that acts as a reducing agent for the nitrogen oxides, in a manner that fairly anticipates the use of hydrocarbons having two or larger number of carbons for reducing the NO as set forth in applicants' claim 16 (particularly since pg. 13 lines 14-

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16 in the applicants' specification sets forth that the hydrocarbons used in the present invention refer to a wide variety of hydrocarbons, including olefins).

The limitations set forth in applicants' claims 15 and 16 calling for the metallosilicate to have a plurality of straight channels of oxygen 8-ring or larger in section, said plurality of straight channels being oriented in at least two different dimensional directions, individual members of said plurality of straight channels communicating with each other via micropores having a size of oxygen 8-ring or larger, the straight channels oriented in at least one of said at least two different dimensional directions having a size in section of oxygen 10-ring or larger are noted, but no material distinction is seen in as much as the catalyst that the applicants use appears to be the same cobalt containing beta zeolite described in the English abstract of the Japan patent document no. 5-220,403 A (please compare the cobalt containing beta zeolite described in Examples 1, 2 and 4 in the applicants' specification to the cobalt containing beta zeolite taught in the English abstract of the Japan patent document no. 5-220,403 A as well as the disclosure set forth on pg. 6 lines 6-9 in the applicants' specification teaching that the applicants' most preferred form is BEA (i. e. beta) which has straight channels of oxygen 12-ring section in two different dimensional directions, the channels communicating with each other via 12-ring micropores).

Additionally, note that paragraph [0027] on pg. 3 in the Japan patent document no. 5-220,403 A discloses that the exhaust gas contains C_3H_6 (but does not mention the presence of any other hydrocarbons), thus, in the process of Japan patent document no. 5-220,403, 90 percent or

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more of the hydrocarbons contained in the exhaust gas are hydrocarbons having four or fewer carbons, as set forth in applicants' claim 17.

Note that the same exhaust gas is expected to inherently contain the same sulfur oxides (and water) recited in claims 15 and 16.

DROP Claims 3, 15 and 16 are again rejected under 35 U.S.C. 102(b) as being anticipated by U. K. patent application 2 238 784 A to Tamura et al.

The Tamura et al. application discloses both a catalyst and a process for removing nitrogen oxides out of an exhaust gas containing excess oxygen (please see pg. 2 lines 14-17 in this Tamura et al. application) by contacting the nitrogen oxides contaminated exhaust gas with a zeolite that may be of the ferrierite type that carries cobalt (please see Table 2 on pg. 10, particularly the cobalt "Metallic element supported" and "Kind of carrier" B (the ferrierite) in this Tamura et al. application), wherein the contact between the nitrogen oxide contaminated exhaust gas and the Co/zeolite is conducted in the presence of organic compounds (such as methane, ethane, propane, etc...) which act as reducing agents for the nitrogen oxides (please see the paragraph bridging pages 4 and 5 in this Tamura et al. application), as set forth in applicants' claims 3, 15 and 16.

The limitations set forth in applicants' claims 15 and 16 calling for the metallosilicate to have a plurality of straight channels of oxygen 8-ring or larger in section, said plurality of straight channels being oriented in at least two different dimensional directions, individual members of said

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plurality of straight channels communicating with each other via micropores having a size of oxygen 8-ring or larger, the straight channels oriented in at least one of said at least two different dimensional directions having a size in section of oxygen 10-ring or larger are noted, but no material distinction is seen in as much as the catalyst that the applicants use appears to be the same cobalt containing ferrierite zeolite described Table 2 on pg. 10 in the Tamura et al. application (please compare the cobalt containing ferrierite zeolite described in the second full paragraph on pg. 4 and the paragraph bridging pages 5 and 6 in the applicants' specification (note that "FER" refers to ferrierite) to the cobalt containing ferrierite zeolite taught in Table 2 on pg. 10 in the Tamura et al. application).

Note that the same exhaust gas is expected to inherently contain the same sulfur oxides (and water) recited in claims 15 and 16.

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or unobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

The person having "ordinary skill in the art" has the capability of understanding the scientific and engineering principles applicable to the claimed invention. The references of record in this application reasonably reflect this level of skill.

PROF Claims 2-5, 10 and 15-17 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Japan patent document no. 5-220,403 A.

The English abstract of the Japan patent document no. 5-220,403 A discloses both a catalyst and method for removing nitrogen oxides out of an oxygen-rich exhaust gas by contacting the nitrogen oxides contaminated exhaust gas with a beta zeolite that may be loaded with cobalt, as set forth in applicants' claims 15 and 16 as well as applicants' claims 3, 4 and 10. From the disclosure set forth on pg. 3, col. 4 paragraph no. [0027] in Japan patent document no. 5-220,403

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As it appears that C_3H_6 is the hydrocarbon that acts as a reducing agent for the nitrogen oxides, in a manner that fairly anticipates the use of hydrocarbons having two or larger number of carbons for reducing the NO as set forth in applicants' claim 16 (particularly since pg. 13 lines 14-16 in the applicants' specification sets forth that the hydrocarbons used in the present invention refer to a wide variety of hydrocarbons, including olefins).

The limitations set forth in applicants' claims 15 and 16 calling for the metallosilicate to have a plurality of straight channels of oxygen 8-ring or larger in section, said plurality of straight channels being oriented in at least two different dimensional directions, individual members of said plurality of straight channels communicating with each other via micropores having a size of oxygen 8-ring or larger, the straight channels oriented in at least one of said at least two different dimensional directions having a size in section of oxygen 10-ring or larger are noted, but no material distinction is seen in as much as the catalyst that the applicants use appears to be the same cobalt containing beta zeolite described in the English abstract of the Japan patent document no. 5-220,403 A (please compare the cobalt containing beta zeolite described in Examples 1, 2 and 4 in the applicants' specification to the cobalt containing beta zeolite taught in the English abstract of the Japan patent document no. 5-220,403 A as well as note the disclosure set forth on pg. 6 lines 6-9 in the applicants' specification teaching that the applicants' most preferred form is BEA (i. e. beta) which has straight channels of oxygen 12-ring section in two different dimensional directions, the channels communicating with each other via 12-ring micropores).

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Additionally, note that paragraph [0027] on pg. 3 in the Japan patent document no. 5-220,403 A discloses that the exhaust gas contains C_3H_6 (but does not mention the presence of any other hydrocarbons), thus, in the process of Japan patent document no. 5-220,403 A, 90 percent or more of the hydrocarbons contained in the exhaust gas are hydrocarbons having four or fewer carbons, as set forth in applicants' claim 17.

The difference between the applicants' claims and this Japan patent document no. 5-220,403 A is that applicants' claim 2 calls for the metallosilicate to have an average diameter for the primary particles of 0.01 and 0.2 micrometers whereas Japan patent document no. 5-220,403 A does not appear to expressly describe the particle size of the primary particles, however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because it is expected to be within the skill level of the person having ordinary skill in the art to readily determine the size of the particles and there is no evidence of record establishing that the size of the primary particles of the applicants' catalyst and the catalyst of the Japan patent document no. 5-220,403 A do, in fact, differ.

Note that the bottom portion of paragraph [0024] in the Japan patent document no. 5-220,403 A discloses a Si/Al ratio of 20 in a manner that is not seen to distinguish from the Si/Al ratios recited in applicants' claims 5 and 10.

The difference between the applicants' claims and the Japan patent document no. 5-220,403 A is that applicants' claims 5 and 10 set forth a Co/Al ratio of 0.2 to 0.6 whereas Japan patent document no. 5-220,403 A does not appear to expressly recite what the Co (or other

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catalytic metals)/Al ratio is, however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because it is expected to be within the skill level of the person having ordinary skill in the art to readily determine the Co/Al ratio in the catalyst of Japan patent document no. 5-220,403 A and there is no evidence of record establishing that the Co/Al ratio of the applicants' catalyst and the catalyst of the Japan patent document no. 5-220,403 A do, in fact, differ.

Note that the same exhaust gas is expected to inherently contain the same sulfur oxides (and water) recited in claims 15 and 16.

Prop? Claims 3, 15, 16 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. K. patent application 2 238 784 A to Tamura et al.

The Tamura et al. application discloses both a catalyst and a process for removing nitrogen oxides out of an exhaust gas containing excess oxygen (please see pg. 2 lines 14-17 in this Tamura et al. application) by contacting the nitrogen oxides contaminated exhaust gas with a zeolite that may be of the ferrierite type that carries cobalt (please see Table 2 on pg. 10, particularly the cobalt "Metallic element supported" and "Kind of carrier" B (the ferrierite) in this Tamura et al. application), wherein the contact between the nitrogen oxide contaminated exhaust gas and the Co/zeolite is conducted in the presence of organic compounds (such as methane, ethane, propane, etc...) which act as reducing agents for the nitrogen oxides (please see the

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paragraph bridging pages 4 and 5 in this Tamura et al. application), as set forth in applicants' claims 3, 15 and 16.

The limitations set forth in applicants' claims 15 and 16 calling for the metallosilicate to have a plurality of straight channels of oxygen 8-ring or larger in section, said plurality of straight channels being oriented in at least two different dimensional directions, individual members of said plurality of straight channels communicating with each other via micropores having a size of oxygen 8-ring or larger, the straight channels oriented in at least one of said at least two different dimensional directions having a size in section of oxygen 10-ring or larger are noted, but no material distinction is seen in as much as the catalyst that the applicants use appears to be the same cobalt containing ferrierite zeolite described Table 2 on pg. 10 in the Tamura et al. application (please compare the cobalt containing ferrierite zeolite described in the second full paragraph on pg. 4 and the paragraph bridging pages 5 and 6 in the applicants' specification (note that "FER" refers to ferrierite) to the cobalt containing ferrierite zeolite taught in Table 2 on pg. 10 in the Tamura et al. application).

The difference between the applicants' claims and this Tamura et al. application is that applicants' claims 15 and 16 call for the metallosilicate to have a plurality of straight channels of oxygen 8-ring or larger in section, said plurality of straight channels being oriented in at least two different dimensional directions, etc..., however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because a review of the applicants' specification on pages 4-6 and Table 2 on pg. 10 in the Tamura et al.

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application reveals that both the applicants' and Tamura et al. are using the same catalyst. Therefore, the descriptive limitations set forth in applicants' claims 15 and 16 are not seen to impart a material difference between the catalysts.

The limitations of applicants' claims 19-21 are noted, but are submitted to be obvious from the paragraph bridging pages 4 and 5 in UK 2,238,784 A where it is disclosed that hydrocarbons such as methane, ethane, etc. . . can be used as reducing agents (for removing NO out of diesel or gas engine exhaust gas: please see pg. 1, first full paragraph in UK 2,238,784 A).

Note that the same exhaust gas is expected to inherently contain the same sulfur oxides (and water) recited in claims 15 and 16.

Keep Claims 23-26 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over European Pat. App'n. No. 0 499 087 A1 to Kawai et al.

EP 0 499 087 discloses a process for catalytically promoting the removal of nitrogen oxides out of an exhaust gas comprising hydrocarbons; excess oxygen and water (please see Table 1 on pg. 5) emitted from an internal combustion engine (please see pg. 2 lines 5-7 and pg. 3 lines 1-3) by contacting the exhaust gas with a zeolite (which may be ZSM-11, i. e. the MEL zeolite of Applicants' claims 25 and 26), wherein the zeolite is characterized by the cobalt contained therein (please see pg. 3 lines 29-32 and lines 55-56).

The difference between the Applicants' claims and EP 0 499 087 is that Applicants' claims 25 and 26 specifically calls for the use of MEL zeolite, whereas pg. 2 lines 29-32 in EP 0 499 087

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discloses the use of a plurality of zeolites to include MEL zeolite (i. e. the ZSM-11), however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because it is obvious to select a particular species from a group of species disclosed in a reference for the same purpose disclosed in the reference.

Claims 7, 8 and 22 have not been rejected under either 35 U.S.C. 102 or 35 U.S.C. 103 because there is no suggestion or teaching in the references of record to modify the zeolite catalysts of either Japan patent document no. 5-220,403 A; U. K. patent application no. 2 238 784 A or E. P. 0499 087 A1 to include either or both of the boron and titanium set forth in applicants' claims 7, 8, 11 and 22.

Response to Arguments

Applicants' arguments submitted in their Amendment mailed 17 Oct. 2000, which has been filed as Paper No. 29, have been fully considered but they are not persuasive.

a) *The Applicants argue that regarding the rejection of claims 10, 12 and 16-21 for obviousness-type double patenting over U. S. Pat. 5,869,013, the rejection should be withdrawn because the claimed subject matter in U. S. Pat. 5,869,013 does not suggest the substitution of the Ti and/or B of claims 15, 16 and 18 or the non-BEA structures of claims 23-26.*

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The argued substitution of B in lieu of the metal (rather than the aluminum, as supported by the specification) is new matter: please see the 35 U.S.C. 112, 1st paragraph rejection for further details.

b) *The Applicants argue that regarding the rejection of claims 2-5, 10, 12 and 15-21 for obviousness-type double patenting over U. S. Pat. 5,985,225, the rejection should be withdrawn because the claimed subject matter set forth in U. S. Pat. 5,985,225 is directed to a catalyst showing particular spectral intensities which reflect low levels of Co_3O_4 - thus, the subject matter of U. S. Pat. 5,985,225 is distinct from the claimed subject matter.*

There is nothing in the rejection of claims 2-5, 10, 12 and 15-21 under the criteria of obviousness-type double patenting from U. S. Pat. 5,985,225 teaching or suggesting that the claims of this application and the claims of U. S. Pat. 5,985,225 are identical, in the manner that the Applicants' argument suggests.

c) *The Applicants argue that the rejection of claims 3, 4 and 15-17 as being anticipated by JP 5-220,403 and the rejection of claims 2-5, 10 and 15-17 as being obvious from JP 5-220,403 are traversed in that the present catalysts and processes use either substituted structures or non-BEA structures which are not disclosed or suggested by JP 5-220,403 which is directed to an unsubstituted BEA structure.*

None of the Applicants' claims 2-5, 10 and 15-17 are directed to non-BEA structures. Note that pending claims 4 and 10 expressly states that the metallosilicate is of the BEA structure, as set forth in at least the English abstract of JP 5-220,403 A.

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The limitation of substituting boron in lieu of metal (rather than aluminum) set forth in claims 15 and 16 are noted, but is new matter.

d) *The Applicants argue that the rejection of claims 3, 15 and 16 as being anticipated from Tamara (i. e. U. K. Pat. App'n. No. 2,238,784 A) and the rejection of claims 3, 15, 16 and 19-21 as being obvious from Tamura is traversed in that Tamura discloses a ferrierite material which has passages of the 8 ring and 10 ring oriented in different directions, not a plurality of 10 ring passages oriented in different directions (ferrierite does not have this characteristic). Tamura does not disclose or suggest the subject matter now claimed.*

The Applicants' argument is not accompanied with a showing or how the catalyst set forth in the claims 15 and 16 materially exclude the cobalt-containing ferrierite zeolite described on pg. 4 (2nd full paragraph) and the paragraph bridging pages 5 and 6 in the Applicants' specification and this same cobalt containing ferrierite taught in Table 2 on pg. 10 in U. K. Pat. App'n. No. 2,238,784 A to Tamura.

Any inquiry concerning this communication should be directed to Timothy C. Vanoy at telephone number (703) 308- 2540.

Timothy Vanoy/tv Timothy Vanoy
24 January 2001 Patent Examiner
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